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ABSTRACT

The commentary which introduces this 72-iter bibliography briefly outlines the scope and significance of population education, and comments on a few of the items included. Although population education has an as yet ill-defined relationship with reproductive (sex) education and family life education, the bulk of the items in this bibliography have to do with population awareness, and are in the form of reports, mimeographed papers, and journal articles. There are several items geared for direct classroom use, such as teacher's guides, model curricula, etc. Dates of the material included range from 1956 (one item) through 1969. The author states that the time is now because radical change is overdue in education, and population education is only one attempt to bring education into the 20th century. (JLB)

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THE TIME IS NOW: POPULATION EDUCATION

(A Commentary and Annotated Bibliography)

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Center for Studies in Education and Development
Graduate School of Education
Harvard University

May 1969

THE TIME IS NOW: POPULATION EDUCATION

"It was a good course, but for me it came a year too late."

A Colombian youth

The time is now... Awareness after the fact impresses me as the essence of all tragedy... Awareness before the fact is what usually passes for intelligence...

The history of the twentieth century becomes more and more a race between numbers and quality of life. If we are to utilize our intelligence in our present population dilemma, we must make our educational systems relevant. Participants and those who are about to become participants in the vital revolution, then, will require an education that includes "population education." Population education is a new concept, still without an adequate definition. Those of us working in population education have identified some of the components as the development of the individual's understanding of population growth, family living, and reproduction--with understanding implying both factual knowledge and attitude. We envisage a good course in population education as including an analysis of a variety of attitudes against which and with which the individual can measure his own attitudes. We consider that population education involves education for population awareness, education for family living, reproductive education--and underlying basic values.

Research on population education should determine one or more answers to the question: What role can and should formal and informal education have in information diffusion about the serious social problems related to rapid population growth? Action research programs may help resolve the dilemmas such as those expressed by Colombian youth in a small, pilot project of population education in Cali. The time is now because clinical programs around the world, regardless of how good they might be or become, are not answering a sufficient set of questions on improving the quality of life for all. Education has the opportunity of becoming an agent of change, an innovator in this vital revolution, or it can pathetically (?) continue to offer inadequately a traditional education to an elite.

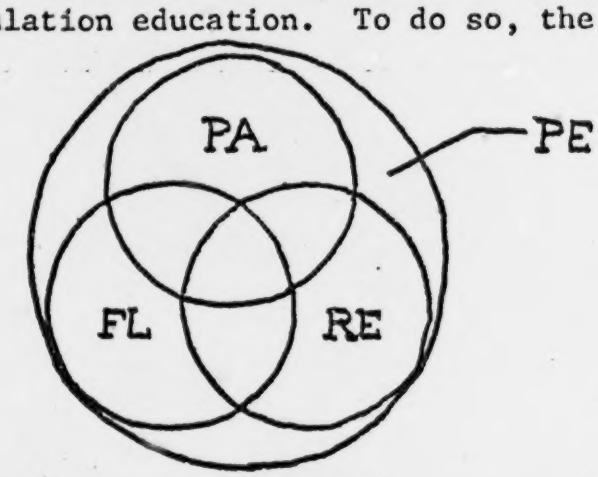
This paper treats three aspects of the increasingly complex field of population education: (1) In partial reply to Simmons' excellent Ford Foundation Memorandum on Population Education and in response to a growing number of requests for population education bibliography, we have prepared an annotated bibliography of population education (albeit with major emphasis on population awareness); (2) In considerable impatience about the continuing replication of KAP-type or MCH-type studies, we trust we are sounding a clarion for population education; (3) With a sense of exploration further into

formal education and out into informal education, we trust that we are outlining some of the areas and methodologies to be investigated and if feasible to be developed.

The significance of population education seems to be best synthesized by Simmons: "...(it) holds promise not only as a means of diffusing information about population problems more pervasively in a given country than can be done by the channels ordinarily available to family planning programs, but as a means of bringing about the desired changes in attitudes, behavior, and values in the next generation (which is almost here)." (See the appended bibliography, Item 58, p. 1).

The most indicting statement on the population deficiencies of our present educational programs has been made by Hauser (32:433). He says: "It is about time for twentieth century school curricula to incorporate twentieth century demographic findings in the context of their twentieth century implications."

Simmons' memo on population education is the most concise position paper of the state of the art of the concept. Simmons reviewed the three approaches (readily identified in the literature, sex education, education for family living, and population awareness). Then, he went on to add a basic value orientation section. Meanwhile, I was in the process of changing the vocabulary of the Harvard Graduate School of Education population education cadre (HGSE pop ed cadre) from "sex education" to reproductive education and was labelling the fourth area as population education. To do so, the following sketch was elaborated:



This diagram demonstrated that certain subject matter is shared by two fields; other subject matter belongs to three, and some to all four (i.e. the center triangle area). Some topics fall only into the area of population education. From November of 1968 through February of 1969 we did not know what exactly we wanted to place in the PE area, but basically we were thinking ecologically. Simmons' basic values and planning concept impresses us as better.

Simmons has given more thought to the literature on reproductive education as it relates to population education than has the HGSE pop ed cadre. We are uncertain as to whether Wayland's separation of population awareness from sex education and family life education is advantageous or incomplete. Nevertheless, while Birchite attacks on sex education are increasing we believe that an important task remains to be done in population awareness, and that can best be achieved by separation. Calderone, by personal communication two years

ago indicated to me that sexuality was a necessary component of population awareness education. Simmons reports that "she believes, then, that understanding sexuality is at least one road to solution of the population problem." Most of the limited number of sex (read, reproductive) education items in the following annotated bibliography do not explain the relationship of reproductive education to population education. We believe that a dialogue is necessary among the educators of the three camps, but some recent consideration of this is that the borders or overlap areas among population awareness, family living education, and reproductive education are very fuzzy. We see enough distinction between pop awareness and the others that we believe it important to clarify further the population awareness area, rather than attempt to diversify into areas where we have developed little or no competency. Consequently, the vast majority of the items in our bibliography have to do with population awareness.

Simmons finds "'Straight' sex education best exemplified by the marriage manuals, of which apparently the best is James L. McCary's Human Sexuality (New York: D. Van Nostrand Co., 1967)." We have not examined this and have not recently reviewed the SIECUS materials, except Calderone's Bronfman Lecture (See Item 17). Work from the Carolina Population Center is also directly relevant to the reproductive education approach (Items 2 and 3). Alarcon's work in Guatemala is attempting all three approaches. We do not know whether Alarcon and colleagues have reviewed sex education literature for local adaptation. The same holds for Ministry of Education--USAID work in Chile, and for ASCOFAME (Colombian Association of Faculties of Medicine) in its projected sex education project. More projects on sex education and reproductive education with family living are evolving, but these are not, to the best of our knowledge, adhering to comparability (See Aurelius, Item 4). Our HGSE POP ED CADRE LIBRARY has no items on reproductive education programs in Asia or Africa. We are most favorably impressed by the Washington, D.C. plan (Item 7).

It is difficult to draw boundaries between sex education materials and family life education materials. If the terminology of reproductive education replaces "sex education," and the social considerations are transfered to family life education, then this confusion may diminish. Several items on our bibliography appear to fall in the shaded area between the two fields. This is true of Keyes (Item 36); Malfetti--with a strong showing of how derelict or puritanical U.S. teacher training institutions have been (Item 41); a series of articles in the Phi Delta Kappan (Item 50); the Royal Board of Education of Sweden (Item 57); Visaria on India (Item 66); and Wheatley with a strong anthro-oriented human development curricula (Item 72).

The family living approach is outlined by the work done by the Carolinians (Items 2, 3, 18, 19, 20); Best (Item 8); Chauls (Item 21); ISEF (Item 34); Lieberman (Item 38); Lieberman (Item 39); Millstone (Item 44); Pakistan Family Planning Council (Item 49); Phi Delta Kappan (Item 50); PP-WP (Item 51); Slesnick (Items 59 and 60); Vavrina (Item 65); and Wheatley (Item 72). The work of the Carolinians includes all three approaches--and goes beyond population problems concerns (as expressed by the population awareness workers) to include lower venereal disease rates and other general public health reasons.

The Chauls paper presents a comprehensive model and evaluation schema. The Millstone (PP-WP) pamphlet is extremely important. The Phi Delta Kappan special issue is one of the best items we have concerning the U.S. scene. Slesnick's work is fascinating and it is simply most unfortunate that he is only "slowly assembling materials for a Handbook for Sex Instruction in the K-12 span for the States" (March 1967 communication). The major observation to make on family life literature--and most sex education literature--is that the researchers and actionists have not yet discovered population problems.

After lamenting the lack of agreement on definitions on sex education, family planning education, and population education, Rodick observes: "Nor has there been much attempt to relate the three areas of instruction to each other. The sex educators, family planners, and demographers all seem to be going their own directions, unaware of the others. If we accept the idea that the three subject areas are really parts of the same pie and complement each other, we must work for a coordinated approach which will wrap the whole thing into a package that every child will get as a part of his compulsory education, and which will allow him to cope with the sex, family and population problems he encounters as he matures."

Population awareness education is mentioned by many; considered in elaborate detail by a group; and is, to the best of our knowledge, really being developed in the field by very few. Alarcon has been considering it since 1966, if not before (Item 1); the Carolinian thinking on this is recent, i.e. of the last two years (Items 2, 3, 19); population pressure work in Baltimore seems to be the pioneering public school population awareness work in the United States (Items 5, 9, 65). Planned Parenthood-World Population concern on utilizing formal education for population education is documented in Items 8, 44, and 51. My work in the Graduate School of Education of Harvard University and in the Faculty of Education of the University of Valle, Cali, Colombia, is, to the best of our knowledge, the first systematically studied pop awareness project in the world (Burleson, Items 11, 12, 13, 14, 15, 16). The Connecticut Demographic Council is attempting on a statewide basis what Baltimore did city-wide (Item 22). Davis (Item 23) probably gives education more responsibility than it is yet able to take on re population education. Days' work is at this juncture more suggestive than definitive (Item 24).

The Family Planning Association of India is straightforwardly making the case that a basic understanding of the dynamics of population will foment national development. The concise memo of September 1968 (Item 26) was supplemented recently (April 4, 1969) with a progress report (personal communication):

> I did not write to you earlier as we were expecting our Seminar to be held in mid-February, but we had to change the dates and had it on the 7th and 8th of March. ... We called about 100 Principals and Teachers from Bombay

> Secondary Schools selected to give a wide coverage and had two whole days (including lunch) together, with the result that they felt tremendously stimulated and are eager to help introduce the subject of Population Education among their pupils. ... The use of different terms to describe Population Education is quite interesting. Fortunately, we do not have to use any euphemisms for family planning but the term sex education still scares people and apart from that, I personally think it is an inadequate and even misleading term. ... I wonder if it wouldn't be a good idea for a small Conference or Workshop to be arranged amongst the few people who are beginning to take up this topic, so that we can start off with a certain degree of consensus and unity of purpose in our different countries!

The Foreign Policy Association pamphlet (Item 29) serves a purpose which no other item in this bibliography does: a national journal of considerable prestige has outlined what the world population crisis is and what teachers can do. Wayland and associates made the error of thinking that the world was ready for curriculum materials, whereas my work in Colombia brought teachers and students along with curriculum developments. The magnetism of the HGSE pop ed seminar in the Center for Studies in Education and Development is that pop ed, as a concept, is something that master's and doctoral candidates have seen as an immediately relevant topic. It is unfortunate that we have no information on how the new Intercom item on population is being utilized. We hope that in this, at least third-try, Hauser's challenge to educators will be heard and acted upon. Hauser's thinking deserves detailed analysis (Items 31, 32 and in Item 29).

The work from Teachers College (Hertzberg, Item 33; Spence, Item 61; and Wayland, Items 68, 69, 70, 71) has been basic to the HGSE developments. We do not understand why Teachers College has not fielded its proto-type materials (originally developed only as guides), nor why with as many lists of goals and alternative approaches developed by Wayland, Hertzberg and Spence, others have not developed field programs in the past four years. Simmons indicates that Wayland prepared a paper, "Population Education in the Educational Systems of India, Programs for 1968-1969," (Undated Mimeo.); however, this program has not developed. The Ford Foundation Consultant in Training has indicated to me (14 March, 1969) that: "Unfortunately, the overall scheme for population education was not accepted by the Planning Commission. Therefore, the general implementation will have to be delayed, but some voluntary organizations and individuals are working towards its implementation, at least on experimental basis."

Extremely promising work is coming from the HGSE pop ed cadre. Chauls has already been cited (Item 21) in relation to family living education and my work has been tossed in with the pioneering fielded efforts on population awareness. Since January 1968, a many-talented, widely experienced (the Philippines, Botswana, Colombia, Nepal, India, Kenya, Greece, and the rural United States) group of students have become interested in population education and have developed some exciting thinking and materials. (See Jones, Item 35;

Keyes, Item 36; Marx and Spicer, Item 43; Oelberger, Item 46; Taylor, Items 62 and 63; and Wakeford, Item 67). Both Harvard and Chapel Hill lay claim to Frothingham (Item 30). The work of Loew was independent but it is being woven into the HGSE pop ed cadre through the weekly seminar participation of the Weston teacher who was Miss Loew's master teacher, Larry Nilson. The work of Wheatley (Item 72) came to our attention from one of the Alfred North Whitehead Fellows, Michael Greenbaum. This pop ed listing with the observations thereupon in the bibliography indicate that a critical mass for the development of population awareness education has been achieved. How this will be translated into a full quadrupedagogic (or a quadruplex pedagogic) program remains to be seen.

Other items in the bibliography are included for one or the other of two reasons: (1) the items relate to population education and are included because we do not want to overlook anything that has come to our attention, albeit less than inspiring; or (2) the item is of utmost interest, suggestiveness, relevance to population education, directly (such as Items 47 and 54, etc.) or indirectly (such as Items 6 and 25, etc.). Because we expect everyone to read the entire bibliography, we do not feel constrained to comment upon every item in this introductory commentary.

The time is now because radical change is overdue in Education. Pop ed is only one attempt to bring "education" up to the times. The pressure resulting from the population explosion in Latin America (and elsewhere) are central to Education at the present time. Population education is trying to affect attitudinal changes among clients of formal education and subsequently of informal education. Preparation of Physical Science Curriculum Studies took ten years and the developers knew exactly what they were trying to do. In population education we do not have such finely delimited parameters, though our ultimate goals are clear...quality of life and environment.

Recent conversations with individuals in other universities, several foundations, and government indicate greatly increasing interest in population education. What exactly will be the next steps of the individuals responsible for the items on this bibliography, we do not know. We do trust that they will share with us their new items on population education and call to our attention the work of others who will in turn add to our fund of information and service.

I began this paper with the single most troublesome comment from my Colombian involvement of the past two years. I almost wanted to title the paper: The Time Was Last Year: Population Education. There are hundreds of post-test optional responses that bring smiles: "I told my parents about the course and they said, 'At last, geography is worth something.'" "I counselled three señoras in the slums." "May God pay you for all you have taught us; these materials will be helpful to all in my school." "I started the course with suspicion, but little by little I saw the frank, honest approach. Felicitations and thanks, ..."

I see the problems ahead as those of training hundreds of thousands of teachers to feel excited yet comfortable with new data, cutting across multidisciplinary lines. It is my professional and personal conviction that teachers

are as bored by much of what they are doing in classrooms as are the kiddies. Pop ed seems to be a most relevant innovation.

The assistance of David McArthur and Daniel Taylor on annotations is most deeply appreciated. The help of Elizabeth Wahn in editing, typing and proof-reading has almost made annotating a pleasure. In the final analysis, the biases, misunderstandings, errors and some of the insights are my responsibility.

AN ANNOTATED BIBLIOGRAPHY ON POPULATION EDUCATION

1. Alarcon, Ordette, "Education in Human Development Project," Universidad del Valle, Guatemala, C.A., May 1968, Mimeo, pp. 9.

   This Guatemalan project proposal is an imaginative effort to develop total popualtion education, including research and curriculum materials on mental and physical hygiene; and the knowledge, attitudes, and behavior relative to sexual conduct, family planning and population problems. The project was funded in mid to late 1968, but no progress reports have been received.

2. Aldige, A. Virginia, and Arnold, Charles B., "Annotated Bibliography of Basic Reference Materials: Family Life and Sex Education," Chapel Hill, Carolina Population Center, University of North Carolina, January 1967, Mimeo, pp. 27.

   This impressive work is a bibliography of bibliographies, listing curriculum development; teacher reference materials; teacher instructional materials; audio-visual aids; children and youth; parents; evaluation; and religious education. An attempt was made to peruse all the family life literature of the 1960's, plus a number of the more valuable earlier works on family life.

3. Arnold, Charles B., Wells, Roger B., and Cogswell, Betty E., "Sex Education: A Challenge for Population Planners," Chapel Hill, Carolina Population Center, University of North Carolina, October 14, 1968, Mimeo, pp. 22.

   The observations of Ozzie Simmons ("Population Education," see Item 58, p. 5.) concerning this document are hard to improve upon. We won't try:

   > Their (Arnold, Wells, and Cogswell) concept of sex education is broad enough to encompass not only sex and family life educational approaches but also parts of the population awareness approach to be described below. Arnold and his associates subdivide sex education into four areas: 1) family dynamics (essentially family life education); 2) human reporductive biology and contraception; 3) social interaction (the interpersonal and human relations emphasis); and social science aspects of population (demography, human fertility, and the social determinants of population growth). Unlike Wayland, who questions the relative appropriateness of sex and family life approaches for family planning objectives and proposes the

population awareness approach as a viable alternative, the Arnold group believes that educational programs incorporating all three approaches could lead to such outputs as lower societal fertility, lower venereal disease rates, increase in the use of contraceptives, a rise in positive expectations regarding parenthood and child rearing practices pertaining to familial sexual instruction, and increased expectation among participants for small family size.

4. Aurelius, Suzanne, "Family Planning in Latin America, Field Tour Report, 19 July 1968," Stockholm, Sweden, Swedish International Development Authority, Xeroxed copy, pp. 25.

   This tour report of the First Secretary for Family Planning of SIDA is more prospective than prescriptive. Mrs. Aurelius visited Guatemala, Costa Rica, Honduras, El Salvador, Colombia, Peru, Venezuela, and Trinidad and Tobago where she had the opportunity to discuss family planning and sex education with family planning leaders. SIDA is making initial contributions of materials and now (spring 1969) is exploring the possibilities of further social and technical assistance in population education and services.

5. Baltimore City Public Schools, see items listed under Biller and Staff (9), and under Vavrina (65).

6. Berelson, Bernard, "Beyond Family Planning," in Studies in Family Planning, New York, The Population Council, Inc., Number 38, February 1969, pp. 16.

   This important catalogue-article reviews various proposals made for dealing with the population problem beyond the current efforts of national programs of voluntary family planning. Concerning intensified educational campaigns, Berelson suggests proposals for consideration and for action including: "(1) Inclusion of population materials in primary and secondary school systems; materials on demographic and physiological aspects, perhaps family planning and sex education as well; introduced at the secondary level in order to reach next waves of public school teachers throughout the country. (2) Promotion of national satellite television systems for direct informational effects on population and family planning as well as indirect effect on modernization in general: satellite broadcasting probably through ground relays with village receiver." The article is suggestive but not instructive on population education.

7. Bernhagen, Lillian F., et al., "Growth Patterns and Sex Education, A Suggested Program for Kindergarten through Grade Twelve," in Special Supplementary Issue of the Journal of School Health, Vol. 37, No. 5a, May 1967, pp. 136.

   The Committee on Health Guidance in Sex Education of the American School Health Association has prepared the most comprehensive

suggested program on sex education that has come to our attention. The program includes a series of excellent reports and suggestions on group discussions, role-playing, materials, questions asked at various ages, teaching methods, etc. The program is outlined for kindergarten through grade twelve and makes reference to family planning and birth control as early as the eigth grade. Simmons (58, p. 13) discusses a few of the more salient factors of the program in relation to population education as:

> The eighth grade curriculum includes such questions as: "Is it good for your health to have babies each year? How do you prevent fertilization? How do young wives keep themselves from getting pregnant? What is birth control?" In grades 10 and 11 there is an entire unit on family planning which includes factors to consider in planning a family, spacing of children, and the impact of the population explosion. Discussion is suggested of family planning procedures and the availability of contraceptive devices, but this is qualified by stating that no specific description of contraceptive measures need be given. The material suggested for grade 12 is of the same order, but explicit emphasis is placed on such ideas as "Family planning and child spacing protect and enhance the total well-being of all persons concerned," and on the inculcation of such attitudes as "A willingness to postpone parenthood until one is willing and able to accept the responsibilities attendant upon parenthood," and "An appreciation for the vital role played by individual couples in the general effort to control the population explosion." It remains to be seen whether these suggestions will be adopted by school systems in the development of sex education programs.

8. Best, Winfield, "Planned Parenthood and Secondary School Education," (A report on the family life survey of U.S. secondary schools), New York, Planned Parenthood-World Population, February 1968, Xeroxed report, pp. 32.

   This is a preliminary report of PP-WP's research on sex education, family living, and population awareness in U.S. secondary education. While there are many additional questions we would like to see discussed concerning the findings and while most of the schools were large (over 1,000 students) public facilities, this work constitutes an important guideline to approaching all school systems on population education.

9. Biller, Edward, et al., Resource Unit on Population Pressure, Baltimore, Baltimore City Public Schools, 1967, pp. 24.

   This teachers' guide for Baltimore public school staff is a pioneering work in U.S. population education. It attempts to alert city teachers to local, state, national and international population problems. The pamphlet contains a number of emphases of alarm which we would prefer to have seen eliminated. Nevertheless, it

is an important contribution to the literature. We question whether a general teachers' guide for all levels is feasible; but, the Baltimore City Public School system is to be highly commended for this effort..

10. Broadbelt, Samuel S., "Population Crisis: Education's Challenge and Moral Commitment," in The Social Studies, Vol. LVII, No. 2, February 1967, pp. 71-76.

    This paper is basically a strong plea for Education to become involved in doing something preventive about the "population crisis." However, the author offers no systematic suggestions as to how to go about this.

11. Burleson, N. David, "A Proposal for Research on the Development of Models for Teaching Population Awareness in Latin America," Harvard Graduate School of Education, Cambridge, Massachusetts, August 1967, Mimeo, pp. 13.

    This proposal is the first synthesis of Burleson's thinking on population awareness, as of August 1967, immediately prior to the commencement of fieldwork in Colombia. The paper outlines the purposes of the research, the background, the premises, objectives, contributions and hypotheses. It is now subsumed by later papers.

12. Burleson, N. David, "The School and Population," Harvard Graduate School of Education, Cambridge, Massachusetts, June 1968, Mimeo, pp. 78. (Not for quotation or publication.)

    This paper is Burleson's progress report and data analysis on phase one of his Colombia fieldwork. Burleson summarizes as follows:

    > Within the small group of the experiment, we developed greater awareness of the small family as a desirable norm, presented alternatives to the idea that uncontrolled reproduction is necessary to ensure the desired family size, and instructed that methods for the deliberate planning of the family are available in Colombia. For the individual as community member, we have begun to create an understanding of the nature and dynamics of rapid population growth and concommitant effects upon health, work, recreation, education and political institutions. The need for developing population policies was considered, especially in relation to macrocosmic problems with emphasis on the prerequisite of accurate vital statistics. Ultimately, the subjects were exposed to the courses of action available to self, community and nation.

    Simmons (58, p. 7) observes:

    > Although there are differences between pre- and post-testing with regard to family size preference and liberalization of attitudes towards population problems, there is no assurance, of course,

that these attitude changes will necessarily influence actual behavior, but the changes do show, at least, that population awareness can be substantially increased by exposure to even a short course on population dynamics. Burleson himself points out this qualification on his results:

> There is no guarantee that the change will become the subjects' family model. It is totally naive to expect that a short course of population dynamics in high school can have a permanent effect. However, if this impact were to be reinforced in other courses throughout the secondary experience, a major restrain on rapid population growth might result.

13. Burleson, N. David, "Population Awareness in Secondary Education: A Colombian Case," Harvard Graduate School of Education, Cambridge, Massachusetts, October, 1968, Xeroxed, pp. 13.

This is Burleson's favorite. He likes the concise way this paper strikes into the problem. Paragraph one starts: "This paper reports..."; Paragraph two begins: "The purposes of this research are..."; Three: "This research is important because..."; Four: "Population Awareness is, I believe, the key concept..."; and so on.

Burleson wrote this paper as a non-data report on phases one and two of the fieldwork after he weathered the mid-course interruption of the Encyclical, "On Human Life," and the subsequent visit to Colombia of His Holiness, Paul VI. After detailing the problems and results of phases one and two, and exploring perspectives beyond, Burleson concludes this report as follows:

> The project must work on and with the relationship of the teacher and the student. This is a special relationship in which values are frequently "caught" instead of taught. This means that the teacher must communicate to his students the weighing and the search for values that are part of his own experience and the life of his subject. The EDUCATION AND POPULATION project seems to be showing teachers and students how this kind of learning can occur.

14. Burleson, Nöel David, "Education and Population in the Third World," (A Proposal for Research on the Development and Implementation of Models for Teaching 'Population Education' in Primary and Secondary Education in Latin America, Asia and Africa) Harvard Graduate School of Education, Cambridge, Massachusetts, January 1969, Manuscript, pp. 13.

Burleson prepared this memo in reply to The Pathfinder Fund request for a detailed statement of his thinking on the immediate needs and and opportunities within population education. In a covering letter he says: "To my knowledge, Professor Sloan Wayland and his two

associates at Teachers College and the cadre of eight at CSED are the only individuals in U.S. schools of education engaged in the development of population education curriculum." The suspected primacy of the work is stated as follows: "The Education and Population Project (E&P), carried out by the Harvard Graduate School of Education in cooperation with the Faculty of Education of the University of Valle (Colombia), is, we believe, the first systematic research in the world to determine what can be the role of Education in information diffusion on population." Now, from correspondence with a number of university and foundation personnel, Burleson believes that there are quite promising possibilities for population education in Chile, Costa Rica, the Dominican Republic, Ecuador, India, Nepal, Pakistan, the Phillipines, Botswana, Nigeria, and Tunisia.

15. Burleson, N. David, and Garside, Caroline, "An Annotated Bibliography on Population and Family Planning in Latin America," Harvard Graduate School of Education, Cambridge, Massachusetts, 1967, Mimeo, pp. 25.

    This bibliography does not relate specifically to population education but is important thereto because it was the benchmark of the population and family planning information explosion from which "population awareness" developed. The authors observed in early 1967 that:

    > The School in Latin America has yet to be surveyed for the attitudes of education re population. Concern for creating population awareness in the secondary schools of the United States is a recent innovation and work of this nature in schools elsewhere is only just beginning to be explored.

16. Burleson, N. David, with the assistance of Pedro Martin Galindo, "Colombia Frente a la Explosion Demographica" (Cursos para Bachillerato--Materiales Experimentales), Cali, Colombia, Julio de 1968, pp.36.

    This prototype civics-geography curriculum, "Colombia and the Population Explosion," an updated adaptation of parts of the small booklet by Joseph Marion Jones, "Does Population Mean Poverty?", 1962. To the best of our pop cadre knowledge, this is the only curriculum which has been systematically fielded and evaluated with teachers in training, teachers in service, and secondary school students. Burleson revises the document after each field session and now (spring 1969) is elaborating major changes under fire from the HGSE pop ed cadre.

17. Calderone, Mary S., "Sexual Health and Family Planning," The 7th Annual Bronfman Lecture, in The American Journal of Public Health, Vol. LVIII No. 2, February 1968, pp. 223-231.

Calderone is convinced that if education for sexual identity, fulfillment, and responsibility were effectively accomplished, family planning would be practiced persuasively. She believes that understanding sexuality and teaching an understanding thereof is essential in the solution of population problems. (Any innovator in the reproductive education and family living education sections of population education must ferret out the links between SIECUS, the Sex Information and Education Committee of the United States, and population problems.)

18. Carolina Population Center, Family Planning Educational Materials: An Annotated Bibliography of Selected Items, Chapel Hill, University of North Carolina, February 1968, pp. 89.

    An excellent report that: 1) provides information to serve as "idea producers" for those interested in creating their own family planning materials; and 2) supplies readers with enough information to describe items accurately when attempting to obtain materials. This bibliography is a fine geographical guide to worldwide family planning materials.

19. Carolina Population Center, Approaches to the Human Fertility Problem, A Report Prepared for the United Nations Advisory Committee on the Application of Science and Technology to Development, Chapel Hill, The University of North Carolina, October 1968, pp. 143.

    This is a comprehensive guide and position paper on several sections of population and family planning problems. It is an extremely useful document to acquaint relative newcomers to the scope and complexity of the human fertility problem, including demography, biomedical aspects, population theory, demogenic policy, program organization, and education. (The 14 page section on education is a good guide and challenge on informal education, but the subsection on formal education is somewhat disappointing.)

20. Carolina Population Center, See Aldige (2), and Arnold (3).

21. Chauls, Donald S., "A 'Family Planning Awareness' Unit for Philippine Rural Elementary Schools," A paper for the Seminars P-107 and X-141, Harvard Graduate School of Education, Cambridge, Massachusetts, January 1969, Mimeo, pp. 60.

    Chauls presents the most comprehensive rationale for the necessity of "family planning awareness" in a national setting that has yet been developed. Within this framework, a unit is developed for Philippine rural elementary students whose basic objectives are to convince students that planning their future families is feasible and that they should plan for small families. In this paper, which was researched and developed for two courses, "Cultural Constraints in Educational Development," and "Planning

and Evaluation of Research and Development Programs," Chauls has a complex model for determining the objectives and teaching techniques of the program, a five section unit, and an evaluation scheme. The ordering and the number of the curriculum sections utilized is optional. A family living-education game constitutes one of the units; however, this unit is still in an extremely proto-type form.

22. Connecticut Demographic Council, Inc., Resource Unit on Population Pressure, (Adapted for Connecticut schools from a unit developed by the Board of School Commissioners and the Board of Superintendents, Baltimore Public Schools), New Haven, Connecticut, n.d., Mimeo, pp. 30.

    This mimeographed adaptation of the Baltimore teachers' guide (9) presents the seriousness of population problems without resorting to the alarm!!! and political scares of the Baltimore document. The points of change are conveniently indicated with asterisks.

23. Davis, Kingsley, "Population Policy: Will Current Programs Succeed?" in Science, Vol. 158, 1967, pp. 730-739.

    Davis suggests that a fundamental change in social organization is needed if adequate population control is to be attained finally. He attacks the family planners as naive, he portrays a "chamber of horrors" as alternatives to present family planning approaches to population problems, and he comes down strong on the positive role corresponding to education: "When the problem is viewed in this light, it is clear that the ministries of economics and education, not the ministry of health, should be the source of population policy." Davis does not go into detail on the role of education except to assert that the schools now define family roles and develop vocational and recreational interests, and that they should redefine roles.

24. Day, Lincoln H., and Alice Taylor, "Sociological Resources for Secondary Schools: Population Episode," New Haven, Yale University, 1967, Mimeo, pp. 11.

    The work of the Days is a part of a larger curriculum project of the American Sociological Association to introduce reliable sociology at the senior high school level:

    > The primary purpose of this episode is to give you, the student, an understanding of the social importance of the number of children people have. In acquiring this understanding you will become acquainted with basic demographic relationships, and develop some ability to work with demographic materials and concepts....

25. DuBois, Cora A., "Socio-Cultural Aspects of Population Growth," in Human Fertility and Population Problems, ed. Roy O. Greep, Cambridge Massachusetts, Schenkman, 1963, pp. 251-274.

DuBois' article is not specifically related to population education, in any formal sense, but it is a fine analysis of communication dynamics and thus is of great relevance to any schema for influencing attitudes on population and family planning.

26. Family Planning Association of India, "Population Education in Maharashtra State, A Memorandum," in The Journal of Family Welfare, Vol. XV, No. 1, September 1968, pp. 3-9.

This important proposal: "...is made in the spirit of the White Paper, and is based on the firm conviction that one of the important ways in which the educational system can be made a 'powerful instrument of national development' is by providing a basic understanding of the dynamics of population growth and how it affects the daily lives of the people and the national welfare." The paper develops a strong case that: "An understanding of the basic causes of the phenomenon of population growth can help ameliorate the difficulties, by showing what action must be taken for their solution."

27. Ford Foundation, "The Ford Foundation's Activities in Population," August 1968.

(This document is not in the HGSE Population Education Cadre Collection. However, Simmons (58) says that the information paper "concludes with a call for exploration of approaches to population problems that go beyond family planning. Population education certainly deserves consideration, along with other non-contraceptive approaches, as one such approach to supplement family planning programs."

28. Ford Foundation, see Simmons (58), "Population Education."

29. Foreign Policy Association, "The World Population Crisis," (What it is and where to get information about it), in Intercom, Vol. 10, No. 4, July-August 1968, pp. 18-56.

This is an excellent, concise treatment of the world population crisis, including: population forecast: the year 2018; memo to teachers; charts for classroom use; where to get information about U.N. population policies and programs; where to get information about citizen programs and resources on population; films on the world population crisis; and additional readings on the world population crisis. This small pamphlet should enjoy the widest distribution as a challenge to teachers to make their curricula more relevant to their students' world.

30. Frothingham, Nathaniel, "A Bio-Cultural Approach to Population Awareness," A paper in curriculum theory, Chapel Hill, University of North Carolina, January 1969, Xeroxed, pp. 39.

    Frothingham's paper is a polemic for ecological education at all levels in our formal and informal programs. Frothingham is, to the best of our knowledge, further engaged in population ecology curriculum than anyone else in a U.S. school of education. (Jones, (35), emphasizes civics and ecology, while Frothingham places ecology before civics.)

31. Hauser, Philip M., "On Design for Experiment and Research in Fertility Control," in Research in Family Planning, ed. Clyde V. Kiser, Princeton, Princeton University Press, 1962, pp. 463-474.

    This is our earliest reference to utilizing formal education as an experimental variable in approaches to the human fertility problem:

    > ...(it) would include what is being done to improve the level of literacy and to increase formal education from the elementary through collegiate and professional training levels. It would also include, however, education specifically aimed at conveying knowledge about the anatomy and physiology of sex and reproduction, about contraception and about the 'population problem' in the family, local, national, and international contexts. Moreover, the experiment would include variation in the channels and methods of communication. Judicious use of the control groups proposed above would be called for.

    Since the 1960 conference this paper has apparently been tragically overlooked.

32. Hauser, Philip M., "Population -- Gap in the Curriculum," in The Teachers College Record, Vol. 63, No. 6, March 1962, pp. 425-433.

    Hauser indicts the school saying: "But the heightened interest in population matters has had relatively little impact on the school curriculum. The facts and implications of population changes are indeed conspicuous by their absence or by their superficial and cursory treatment in American education." (Underlining ours.) He goes on to assert that despite the implications of population changes upon school administrations, this anomalous situation persists. This foremost demographer suggests a wide range of subjects for the curriculum, including total population growth, prehistoric and historic population growth, components of growth and change, distribution, composition, biological and genetic aspects, population in relation to other factors, and methods of population research. The article is a must in any population education library.

33. Hertzberg, Hazel W., Teaching Population Dynamics, an Instructional Unit for Secondary School Students, Population Instructional Materials Project, International Studies Program, Teachers College, Columbia University, New York, 1965, pp. 91.

    This prototype curriculum intended for use in social studies was developed "primarily for the use of teachers in teacher training institutions whose students are preparing to teach in village primary schools." The goals are to develop a basic demographic vocabulary; to give students practice in simple demographic analysis; and to alert them to the importance of accurate and comprehensive statistics. It is a good workbook, but we find that it instructs in dynamics without creating population awareness.

34. Instituto Superior de Educacion Familiar, "Trayectoria de la Educacion Familiar Sistematica en el Peru," Lima, Peru, 1968, Xerox memo, pp. 6.

    The program of ISEF seems to be extremely Church oriented. However, the program should not be discounted. It appears as an important effort to introduce family living into the educational system. On page three, section "L" indicates that "they" have the law, but that "they" cannot get the program off the paper into action.

35. Jones, Philip F., "A 'Population Awareness' Civics Unit for use in Botswana Secondary Schools," Harvard Graduate School of Education, Cambridge, Massachusetts, December 1968, Mimeo, pp. 49.

    Jones argues quite successfully a rationale for an ecological civics for Botswana, a country with population problems albeit with a simple population density of approximately one person per square kilometer, (2.7 people per square mile). Jones presents more of a case than a curriculum and what curriculum there is seriously falters by fluctuating between being a teacher's guide and students' workbook. Nevertheless, this is a challenging piece of work supported by a comprehensive consideration of African population materials. Jones suggests an African Population Sampler similar to the PP-WP Family Life Sampler and he recommends a number of items appropriate to the concept. Whereas most of the curriculum materials being elaborated by the HGSE pop ed cadre are college curricula, Jones' curriculum is a senior high school check list of what civics should be doing to be relevant.

36. Keyes, Meredith, "Cultural Constraints to be Considered in the Development of a Sex Education Curriculum in Colombia," Harvard Graduate School of Education, Cambridge, Massachusetts, May 1968, Xeroxed, pp. 39.

    This paper prepared for Burleson's course, "Cultural Constraints in Educational Development," presents a fine review of the literature related to the subject of sexuality and sex education in Colombia, analysed from the perspective of an ex-Colombian Peace Corps volunteer who worked with Colombian teachers.

37. Kleegman, Sophia J., "Educate the Educators," in Fertility and Sterility, Vol. 17, No. 2, 166, pp. 160-164.

Dr. Kleegman attempts to challenge educators -- i.e. physicians, social workers, nurses, teachers, professional personnel in every field of human service related to the family, to family planning activity. The article sufferes from a serious medical bias and does not explore a variety of responsibilities other than medical in origin: "The primary source of such education, orientation, and guidance in attitudes and responsibilities must be the physician." This item is not helpful to us in our efforts in formal population education; but it does have relevance to informal population education.

38. Lieberman, Annette F., "Planned Parenthood's Role in Population and Family Planning Education in Schools," Planned Parenthood Association of Maryland, Baltimore, Maryland, 1968, Mimeo, pp. 8.

The author presents a case study of population education, sex education, and family planning education in the Baltimore Public School System, especially in the post 1966 period. The paper is a fascinating, concise and challenging report on the limited success PPAM has achieved in public population education.

39. Lieberman, E. James, "Preventive Psychiatry and Family Planning," in The Journal of Marriage and the Family, Vol.XXVI, No. 4, November, 1964, pp. 471-477.

Dr. Lieberman discusses the circular relationship of excess fertility and the conditions of poverty as viewed from "preventive psychiatry." He sees family planning as a vital part of an increasingly necessary mastery of environment. The areas suggested for special attention are sex education, personal competence in family planning, life outcomes related to planned and unplanned birth status, and mental health aspects of social change.

40. Loew, Jane, "Population Dynamics," (A Secondary School Curriculum in Biology), Weston High School, Weston, Massachusetts, 1967, Mimeo, pp. 10.

"Population Dynamics" is a series of short stories and essays which introduce students to the dynamics of animal and human populations. Each of these selections presents some basic questions which are intended to encourage students to become actively involved in the key issues of the population problems. Students are shown ways by which they can explore certain key concepts. A bibliography of the most useful reference materials for high school students has been drawn up. The list seems so choice to us that we include it here. The innovator of this adjunct curriculum to the BSCS Green Version has done a fascinating job of bringing a wide range of concerns to suburban biology students:

Bates, Marston, Animal Worlds (New York, 1963)
Bates, Marston, The Prevalence of People (New York, 1955)
Calhound, John B., "Population Density and Social Pathology," Scientific American, CCVI:2 (February, 1962), pp. 139-148.
Davis, Kingsley, "Population," Scientific American, CCIX:3 (September, 1963), pp. 62-71.
Fisher, Harvey I., "Midway's Deadly Antennas," Audubon, (July-August, 1966), pp. 220-223.
Harrison, George H., "The Valley of the Condors," National Wildlife, (October-November, 1967), pp. 4-9.
Hauser, Philip M., Population Perspectives (New Jersey, 1960).
Hauser, Philip M., The Population Dilemma (New Jersey, 1963).
Hoagland, Hudson, "Mechanisms of Population Control," Daedalus, XCIII:3 (Summer 1964), pp. 812-829.
LaMonte, F.R. and Welch, M.H., Vanishing Wilderness (New York, 1934).
Leopold, Starker A., "Too Many Deer," Scientific American, CXIII:5 (November, 1955), pp. 101-108.
Osborn, Fairfield, Our Crowded Planet: Essays on the Pressure of Population (New York, 1962).
Osborn, Fairfield, Our Plundered Planet (Boston, 1948).
Sax, Karl, Standing Room Only: The Challenge of Overpopulation (Boston, 1955).
Tupper, Margo, No Place to Play (New York, 1966).
Zelinsky, Wilbur, A Prologue to Population Geography (New Jersey, 1966).

41. Malfetti, James L., and Rubin, Arline M., "Sex Education: Who is Teaching the Teachers?" in The Record, Teachers College, Columbia University, New York, Vol. 69, No. 3, December, 1967, pp. 213-222.

    Malfetti and Rubin, by means of their survey research of U.S. teacher training institutions, indict Education for woefully inadequate programs in sex education. The paper deals with what is and should be a program in sex education. The investigators found that only 21 (8%) of the 250 responding institutions offer a specific course or courses intended to prepare teachers to teach sex education. We consider that no discussion of population education is adequate without understanding the findings here reported:

    > The conclusion is clear. With all the agitation directed toward education in the schools it is time for teacher preparation institutions to face up to the questions of who is going to teach the teachers. Under the circumstances their complacency is at once remarkable and unfortunate.

42. Mary Helen, Sister, "Family Planning Within the Curriculum," in Nursing Outlook, Vol. 15, No. 3, March 1967, pp. 4. (Reprinted by Planned Parenthood--World Population.)

    This is a straightforward presentation for family planning education. Sister Mary Helen feels that: "...by integrating family

planning concepts and principles throughout the baccalaureate program, students develop a philosophy to guide them in their future nursing role." The two basic premises of the article are: (1) There is a role in family planning programs for "all nurses, even for those who consider certain methods of family limitation immoral and unacceptable by their standards." (2) That nursing educators, by realistically preparing their students to meet family health needs upon graduation, will identify and delineate this nursing role."

43. Marx, Thomas, and Spicer, Douglas, "Mathematics Curriculum for Population Awareness," (Junior High Unit on Tables and Graphs), Harvard Graduate School of Education, Cambridge, Massachusetts, January 1969, ditto, pp. 53.

The efforts of Marx and Spicer to work out a math-pop-awareness curriculum on Colombian data while they have analysed the cultural constraints in educational development that this project implied was the tragi-comedy serial of the autumn semester of 1968-1969. The actors became very good commensal friends and true believers of pop ed. Their prose became the envy and entertainment of many of us:

> Why We Undertake This Project: The new math has attained some of its goals; college teachers report that students come to them better prepared and assimilate more while in college; test publishers report a steady rise in performance of students taking standardized exams; the research literature in both pure and applied math proliferates. Yet, we as secondary school math teachers found that for many of our students math was still irrelevant. The plaintive question which the students raise in every course we have taught is 'What use can I make of this stuff in my life, now or in the future?' This curriculum unit is the beginning of an attempt to come to terms with this question -- to take mathematics out of the vacuum where hypothetical grocers make mixtures of Brazilian and Colombian coffee and hypothetical surveyors measure the height of mountains by sighting over the top of flagpoles. We propose to take mathematics into a realm where people take a stand by their actions as well as their arguments: the realm of population growth.

Later, in their Preface, the gemini make a comment which causes Burleson to burst into laughter every time he calls this curriculum to anyone's attention:

> This strategy attempts to minimize the jarring reaction which usually follows when teachers are handed new, unfamiliar and possibly deviant materials, since the teacher's primary material, mathematics, remains the same and only 'incidental' material is displaced. The strategy evolved out of a conversation we

had with Dr. N. David Burleson and with our colleagues in his seminar. Dr. Burleson sees mathematics as just one of the faces of population. He expects to examine other faces in the light of other disciplines: biology-population and civics-population have already been written and more hybrids are to follow. These units, each contained within a regular course (biology, civics, mathematics, etc.) will be learned (Burleson says taught) at different grade levels. Thus, the student not only comes to population with ever-increasing stores of previously acquired population knowledge, but also with ever-increasing sophistication. By not overwhelming him (the student) in any one year, Dr. Burleson hopes to keep the student's appetite for more knowledge on population keen.

Aside from a few misplaced referents, the approach is the way more things should be done -- with relevancy.

44. Millstone, Dorothy L., ed., Family Planning, Population Problems, and The Secondary School Curriculum, Planned Parenthood-World Population, New York, 1966, pp. 35.

This compendium of experiences and attitudes on what is coming to be called population education is the single most helpful document we have had as an early guidebook to finding literature and project reports on population education. The exchange between Zacharias and Guttmacher is a most disturbing challenge: Zacharias reported that "preparation took ten years (in Project Physics) and we were aided by an army of specialists with a sharp focus on goals. We knew exactly what we were trying to do. Nevertheless, every step of the way was sweat, blood and tears. We would argue incessantly in an effort to achieve full clarity." Guttmacher expressed his concern: "It will take more than ten years for a national panel of specialists to debate, test and complete recommendations for secondary school curriculum revision to give proper emphasis to population problems and family planning. But American schools need this guidance sooner; they need it now." In addition to reporting the work of Senior, Hauser, Wayland, Slesnick, Zacharias and Guttmacher, the pamphlet provides a fine but now slightly dated guide to books, pamphlets and articles on population problems, quality of life, family planning, religious opinions, sex education, and bibliographies. A selected list of films about population, and family planning is annotated, also.

45. Molnos, Angela, Attitudes Towards Family Planning in East Africa, Ifo-Institut Fur Wirtschaftsforschung Munchen Afrika-Studienstelle, Munich, 1968, pp. 414.

The study attempts to sketch male and female attitudes toward family planning in East Africa. These attitudes are not at all positive, and further they indicate that resistance could grow greatly toward family planning if present programs are extended.

After an enthusiastic defense of the scientific solidity of the study, there follows an anthropological discussion of present culture giving particilar attention to the position of women. The population pressure discussion grinds out through documentation, statistically, anthropologically, and with quotations to dramatise the dire future for all fields of development, i.e. economic, educational, health and political. Much of the study seems to have been devoted to sketching the attitudes toward: no children (negative), one child (negative but with economic blessings, death of parents without having children (negative), mother and/or fatherin a big family (positive) and small family (positive for econo-ic reasons) vs. the attitude toward a family planned family (negative because it impedes nature), etc. The male desire for many children rests in a need for a continuation of his clan, and in women -- note, a negative reason -- not to be called barren. A discussion, "Family Planning Education in Schools" (pp. 222-224), follows the Mayland (68) arguments, except for a rather heavy emphasis on teacher family planning education.

46. Oelberger, Patricia, "Nutrition Unit, Teacher's Guide," Harvard Graduate School of Education, Cambridge, Massachusetts, January 1969, Ditto, pp. 11.

Oelberger has defined a number of the projects immediately available to teachers of teachers and to teachers that might promote "nutrition awareness" in Colombia. While the paper does not deal directly with the population data of the nation, the unit can easily be related to the population awareness curricula developed for use in Colombia by Burleson, and Marx and Spicer. The author analyses the cultural constraints operating against her nutrition unit, with a good review of the literature and an excellent utilization of her Peace Corps experience of working with Colombian teachers.

47. Oettinger, Katherine B. and Lee, Philip R., Family Planning: Nationwide Opportunities for Action, Department of Health, Education and Welfare, Washington, D.C., n.d., pp. 40.

This authoritative report and challenge from HEW emphasizes the role of public education in family planning: "A survey of parents in a Southern city revealed that 90% of them wanted their children to receive better guidance on sex matters than they had received and wanted the schools to assume more responsibility for providing accurate information. ...the Office of Education will support family life education and sex education as an integral part of the curriculum from pre-school to college and adult levels; it will support training for teachers and health and guidance personnel at all levels of instruction; it will aid programs designed to help parents carry out their roles in family life education and sex education." The report identifies a wide variety of topics about which we require considerably greater knowledge.

48. Oettinger, Katherine Brownell, The School of Social Work's Responsibilities in Family Planning Education, Department of Health, Education and Welfare, Washington, D.C., 1968, pp. 16.

Mrs. Oettinger's challenge to social workers is to their profession what Malfetti and Rubin's challenge to education is to education: "A search of social work literature in the decade before 1965 revealed only two articles on family planning. From then until 1967, out of a total of 2,000 social work papers, only 13 dealt with family planning." (The Harvard Graduate School of Education pop ed cadre is attempting to keep informed upon population education literature in both formal and informal areas. This report indicates the strong legislation backing up new endeavors to communicate family planning knowledge and attitudes through all media.)

49. Pakistan Family Planning Council, "Ten Population Stories Written for Standard One to Standard Ten," Government of Pakistan, Karachi, West Pakistan, n.d., Mimeo, pp. 22.

These preliminary materials developed for use throughout the school system of Pakistan to awaken concern about family, community and national population problems are, to the best of our knowledge, the first materials to be formally introduced into a national school system. Unfortunately, there has been no systematic evaluation and revision of the materials.

50. Phi Delta Kappan, "Education, Population, The Pill," Vol. XLIX, No. 9, May 1968, pp. 41. (A special issue on population problems, ethics, sex education and family planning.)

To review this excellent issue of the Kappan in a short paragraph is absolutely impossible. Hense, we will only list the articles and insist that they are as indispensible to understanding population education as Hauser's "Population -- Gap in the Curriculum," (32).

Editorial, "Education, Population, The Pill,"
Walter Pitkin Jr., "Too Many People: Can Educators Find the Answer?"
Ashley Montagu, "The Pill, The Sexual Revolution and The School."
Michael Scriven, "Putting The Sex Back into Sex Education, An Interview with Gunnar Myrdal."
Edward Pohlman, "Premarital Contraception and the School."
A. Gray Thompson and Edward F. DeRoche, "Sex Education: Parent Involvement in Decision Making."
John W. Dykstra, "Imperative: Education for Reproductive Responsibility."
Glenn Smith, Aldous Huxley, "Analyst and Prophet for Twentieth Century Man."
Joseph S. Junell, "Whither Public Education?"
Claude Ury, "Family Planning and Population References for Educators." (a 237 item, basically non-technical bibliography for educators interested in pop problems.)

51. Planned Parenthood -- World population, Family Life Education Sampler, New York, 1967.

This superb collection includes a Planned Parenthood-World Population action research survey questionnaire designed to measure current trends and needs in secondary schools for teaching materials and a sample of materials for population education, especially for family living. It is a selection of materials for teacher, student and classroom use. The distribution of samplers to some 1700 secondary schools was the first systematic widespread population education survey we know of.

52. Pohlman, Edward and Rao, K. Seshagiri, "Attitudes of Young Children and of Teachers Related to Family Planning," Joint publication of Central Family Planning Institute and Carolina Population Center and The Pathfinder Fund (Delhi Office), u.d., Mimeo, pp. 2.

Pohlman and Rao are studying by interview methods 1,167 children, 429 of their parents and 672 teachers to determine what children and teachers already know and believe on population education, in anticipation of involving them in pop ed. The preliminary report is limited to data analyzed so far for classes 1-3 and for teachers. The questions reported upon are: Do you wish that there were more brothers and sisters in your family? How many children do they want when they grow up? Want more brothers and sisters or less? We are greatly interested that Pohlman and Rao are working with youngsters. One of the points upon which Burleson feels weakest is that youth is already a late audience. We need considerably more research to determine what approaches to population education are most appropriate at what age levels. (Pohlman is a firm believer in the population awareness approach rather than sex education and family living.)

53. Population Reference Bureau, People! An Introduction to the Study of Population, (Robert C. Cook and Jane Lecht), Washington, D.C., Columbia Books, 1968, pp. 63.

This beautifully illustrated, seventh grade text book expresses well a number of ideas about population growth, food, conservation, and education but the tone impresses us as totally patronizing. We feel that the audience has been underestimated and that the text never comes grippingly to terms with the prospective life-times of these (U.S.) seventh graders until the section on looking ahead and then it only avoids population planning.

54. President's Committee on Population and Family Planning, "Population and Family Planning: The Transition from Concern to Action," United States Department of Health, Education and Welfare, Washington, D.C., November 1968, pp. 43.

It is exciting to have had the Secretary of Health, Education and Welfare, the Honorable Wilbur J. Cohen, assisted by Mr. John D. Rockefeller, 3rd, Chairman of the Board of Trustees of the Population Council, work with many of the most concerned population

awareness people in and out of goverment on a document which is, indeed, a guide for effecting the transition from concern to action. The role of formal and informal education in this is pervasive and the document is a sine qua non for a pop ed library. If pop ed cadres did not have a mandate before, they could easily adopt proposal number three as their responsibility:

> THAT the Office of Education provide significant assistance to appropriate education agencies in the development of materials on population and family life.
>
> All levels of the educational system stand in need of materials and curricula on the causes and consequences of population change, so that the American people can confront population issues intelligently. Also needed are curricula on family life so that personal decisions about marriage and parenthood can be made responsibly and with adequate information. Federal assistance for local education programs in these fields should be expanded rapidly to at least $8 million annually.

55. Reeder, Leo G., and Krishnamurty,Goteti B., "Family Planning in Rural India: A Problem in Social Change," Journal of Social Problems, (volume and issue information not available, early 1960's) pp. 212-223.

> The article refers to a study by Krishnamurty concerning teachers: "The data presented here are based on exploratory study undertaken in the rural area of Andra, East Godavary District, India. The study represents an attempt to determine the attitudes and practices of high school teachers in rural areas of India with respect to family planning." Apparently, no attempts were made to increase teachers' population awareness nor to recruit them to working on population education.

56. Rodick, Larry S., "The Status of Sex, Family Planning and Population Education in Public Education Systems," Center for Population Planning, The University of Michigan, Ann Arbor, Michigan, August 1968, Mimeo, pp. 40.

> Rodick's emphasis is basically upon sex education and family living rather than upon population education. He finds a great deal of literature on sex education and he reports interestingly upon stages of development in the thinking on sex education. Less has been done both in the literature and in fieldwork concerning family planning education. He observes: "At this point, it would appear that none of the formal family planning instruction is found below the University, or institute level. Only one country, Sweden, has included family planning at the secondary school level or below." He found that population education is included at all levels, in many countries, but that it is usually fragmented and is covered with other subject areas. The major obstacles to sex and family planning

education, and to some extent re pop ed, arise in the area of teacher preparation and school administration rather than legal restrictions or public resistance. Lack of qualified teachers is probably the most difficult problem encountered. Rodick pleas for better definitions of the topics: "While I could add my version to the long list of definitions covered earlier, I think it would be much more useful if the leading writers and educators in this field could somehow get their heads together, possibly at a conference, and hammer out an agreement on just what sex, family planning, and population education signify respectively, if in fact these terms are really meaningful."

57. Royal Board of Education in Sweden, Handbook on Sex Instruction in Swedish Schools, Board of Education Series, No. 28, Stockholm, 1956, pp. 93.

We are not certain how current this booklet is on the Swedish scene, but it was recommended at the Santiago Conference of the International Planned Parenthood Federation, April 1967. The approach seems to be straightforward. Prior to being acquainted with the K-12 program on the American Association of School Health, we were very well impressed by this Swedish booklet; however, now we prefer the questions approach and documentation of the later work. The Swedish Handbook does not link reproduction education to population problems.

58. Simmons, Ozzie, "Population Education," The Ford Foundation, Santiago, Chile, December 31, 1968, Xeroxed, pp. 17.

This is the New Year's "state of the art" position paper on population education. John Nagel of Ford-New York has observed that: "Dr. Simmons has made a genuine contribution to thinking -- and, let us hope, action -- in this difficult, but extremely critical area of education...." Simmons' major observation is: "Population education holds promise not only as a means of diffusing information about population problems more pervasively in a given country than can be done by the channels ordinarily available to family planning programs, but as a means for bringing about the desired changes in attitudes, behaviors, and values in the next generation (which is almost here)." The HGSE pop ed cadre is delighted with the manner in which population education is defined and dissected. Burleson was so enthusiastic about Simmons' paper that he wrote five pages of favourable commentary and mutual challenge.

59. Slesnick, Irwin, "Population Expansion and Birth Control -- An Appropriate Problem for High School Study," in American Biology Teacher, Vol. 26, No. 8, December 1964, pp. 581-584.

This short article reports an extremely dynamic pilot project in sex education, developed with much broader scope than traditional units in this field. Slesnick's work, more than any other item we have seen, relates sex education to population problems.

60. Slesnick, Irwin, "A Pioneer Birth Control Course in High School," in Sexology, Vol. XXXIII, No. 10, May 1967, pp. 705-707.

The article is a popularized, more anecdotal, account of the material reported in Slesnick's "Population Expansion and Birth Control -- An Appropriate Problem for High School Study," (59). Both articles should be read.

61. Spence, Lucile, Critical Stages in Reproduction, Instructional Materials in General Science and Biology, Population Instructional Materials Project, International Studies Program, Teachers College Columbia University, New York, 1965, pp. 93.

This curriculum seems to be very good for developing an understanding of the critical stages, but we do not see how it increases population awareness. In the prefactory remarks, Wayland observes:

> These 'prototype' materials are designed to be helpful to curriculum planners, textbook writers, and others concerned with developing educational programs. Included are textual materials that might be useful in developing those sections of biology or general science textbooks that deal with reproduction, related teacher guide materials, suggested audio-visual materials, and bibliographies. The textual materials have been written for the secondary school level, particularly secondary schools that prepare teachers.

62. Taylor, Daniel Carl, "Family Planning and National Development: The Indian Case," Harvard Graduate School of Education, Cambridge, Massachusetts, February 1969, Xeroxed, pp. 30.

Taylor is contentious in his assertions about Indian development and unity, and challenging in his acronymic additions. Taylor's knowledge of India is considerable and his paper is basically politick. His preface indicates where he feels India needs to go: "In this paper I contend that the rate of population growth in India is threatening the country's existence as a single political unit; therefore, the only alternative for preserving the dream of a United India is through foreign assistance to decrease the population growth. Following these contentions, I present a new population policy that provides a basis for more comprehensive family planning action." Taylor comments that as yet little is known about why Indian participants do in fact practice family planning. He would have new four phase policy to develop personal desire for family planning: "collecting the baseline data, uncovering the reasons why current participants desire family planning, developing techniques to increase that desire, and then implementing the procedure so that across the society individuals regulate their births. In India, part of the initial phase of collecting the baseline data has already occurred. The numerous Knowledge, Attitude, Practice (KAP) studies assess the noetic half of the societal gestalt. The other side, the emotional dimensions, most studies have thus far neglected. The family planning decision -- especially a villager's

decision -- is generally based upon emotional criteria. For this reason I offer the variable, Need, Desire, and Belief (NDB) as measures of the emotional temper of family planning. Together, KAP and NDB define the noetic and emotional components of the societal, family planning psyche. Therefore, to orient later action, any new population policy must assess these variables." Taylor does not give us a 1, 2, 3 eureka answer to India's problems but he does make a number of provocative observations about the role of formal and informal education in the family planning programs of India.*

63. Taylor, Daniel Carl, Developing a Foundation for Population Education -- The Nepalese Case, Qualifying Paper, Center for Studies in Education and Development, May 1969.

Taylor's paper on Nepal is a companion to his India paper. The paper opens by arguing the need for an effective population program. Here, he distinguishes between "mutable points" and "stinting points," thus categorizing the limits for population growth as mutable when new technology can be introduced to more efficiently exploit the resources at hand, and as stinting when there are ultimate restrictions beyond which -- assuming a total efficiency of resources -- the population cannot grow.

This discussion is followed by a section on present channels of population education. Taylor decries current avowels that maternal and child health programs are capable of providing adequate education. He says that the population is exposed to both informal and formal cahnnels of education, and beyond the clinic, programs have not significantly exploited these channels.

Taylor maintains that the present approach is wrong for two reasons:

(1) In operating on a one-to-one basis so much time is spent on the individual that the societal needs for family planning are neglected. The primary reason individual care is now possible is that there are relatively few patients. When clinics become pressured by many patients, then it will be impossible to provide individual attention....

(2) Present policy is now servicing pricipally those already motivated toward family planning. To achieve a meaningful regulation of the population growth rate, the others must also be motivated.

Therefore, due to the urgency of the situation, the approach must be changed. No longer can the time be spent in fitting family planning methodology to individual patients. The patients must be motivated on a mass level to fit the methodologies. Family planning in Nepal must develop into a mass movement molding the society to its own specifications.

The next section presents a schema for organizing the many components that influence population growth. The criteria used are

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*In his later Qualifying Paper (63) Taylor changes the noetic-emotional terminology to cognitive-affective and "Belief" (in NDB) to "Bias." The Qualifying Paper also contains a much more complete discussion of these variables.

both whether the influence forces family planning behavior or whether it attracts it, and also whether the influence is natural or whether it is introduced by the program. Thus, Taylor categorizes the acts of a family planning program into four areas: coercion, constraints, stimuli and incentives.

Following this, Taylor presents three of the attitudinal change theories. Using these, he discusses the basis for forming positive family planning attitudes in Nepal. He then incorporates this theoretical development into the operational framework he developed in the India paper and has now brought forward. Particular attention is paid throughout the discussion to the process of effecting individual behavior, but individual behavior that can be multiplied through education into a mass movement.

64. UNESCO, "Report by the Director General on UNESCO's Responsibilities in the Field of Population," 77 Ex/13, Paris, August 30, 1967, pp. 12.

This was an important report in that herein the Director General of UNESCO set forth the organization's broad perspectives for the next ten years, outlined a draft program for the next two biennia, from 1969 to 1972, and indicated what UNESCO might do in the field of population in 1967-1968. Items (c) and (d) of paragraph six are the listings of greatest interest to us: "As regards further possibilities of UNESCO activities in the field of population, the Director-General calls attention to the following areas: (a) promotion of demography as an academic discipline, (b) training of demographers at the university level and creating opportunities for post-graduate demographic research, (c) dissemination in schools of knowledge about population data and problems, (d) introduction of population problems into adult education programmes." As of February 1969, we understand that UNESCO has had several population education requests, but nothing in pop ed has been fielded by this agency.

65. Vavrina, Vernon S., "Family Life Education, K-6" and "7-12," Baltimore City Public Schools, 1967, pp. 24 respectively.

These guides to Family Life Education are the results of planning and experimentation that have gone on for over a decade. Since 1956 the public system in Baltimore has innovated with parent education institutes and electives on family living in high schools. In 1967 Vavrina, Associate Superintendent of Curriculum and Instruction, wrote: "It is our belief that Family Life education will help the individual to achieve maximum physical, intellectual, emotional, social and spiritual growth -- to live harmoniously with the members of his own and the opposite sex -- and to fulfill his role both as a person and as a dynamic force in the family life of his time." The Curriculum Committee under the chairmanship of Vavrina has presented a detailed listing of categories to be treated at the various age levels. Birth control is discussed at the senior high school level. Approximately seventy audio-visual items are listed in the appendix. (For Baltimore's work on population awareness education see Biller, Item 9).

66. Visaria, Pravin. "Population Assumptions and Policy," Economic Weekly, Bombay, August 8, 1964, pp. 1343-1348.

Visaria's short article examines whether, and how far, the population projects of the Third Plan, made in 1961, stand in need of revision in the light of later developments in India. It also reviews the implementation of the family planning program and analyzes the proposed reorientation of the program with the objective of achieving a more rapid decline in the rate of population growth. In relation to education, the author observes that, "the load of family planning propaganda can be made somewhat lighter if sex education including some instruction in means of family limitation can be introduced in, say, the final year of high school when the boys and girls would be around 15-16 years in age. Apart from its contribution to the family planning propaganda, such education will be a welcome preparation for married life for those who terminate their studies at the high school level. The Mudaliar Committee on Health Survey and Planning was luke warm to this idea and hesitantly suggested its adoption only in colleges." (It is encouraging to read that some Indians as early as 1961 were considering family living and reporduction education linked to population education. For much more recent developments along this line, see Family Planning Association of India, (26).

67. Wakeford, Lawrence F., "A Population Awareness Biology Unit for Use in Colombian Secondary Schools," Harvard Graduate School of Education, Cambridge, Massachusetts, May 1968, unpublished manuscript, pp. 50.

Wakeford, a former Peace Corps volunteer in the Department of Biology of the University of Valle, Cali, Colombia, has developed an exciting bio-pop-ed curriculum which fits in well with the Biological Sciences Curriculum Study (BSCS green version -- ecology) presently being carried out in Colombia. In fifteen sessions, Wakeford takes the student through discussions of ecological principles, population behavior and a view of human population growth. In the academic year 1969-1970, bio-ed majors in Cali have translated and reworked this prototype curriculum for use in their apprentice teaching in the public schools of the Department of Valle. Meanwhile, Wakeford is teaching and further revising the English version of his work at Walpole High School, Walpole, Massachusetts.

68. Wayland, Sloan, "Family Planning and the School Curriculum," in Bernard Berelson et. al., eds., Family Planning and Population Programs, Chicago, University of Chicago Press, 1966, pp. 353-362.

Although Hauser's writings on population and education pre-date the work of Wayland in this field, it seems that Wayland's came at a time when people in positions of population power were ready to listen. In his Geneva Conference paper, Wayland provides an extensive list of goals. Wayland's use of the term population education corresponds roughly to Burleson's population awareness. Wayland, like Burleson, does not include imparting knowledge about specific

contraceptive methods, unless the cultural setting makes such easy. Wayland stresses the point that it is erroneous to assume that school programs must have the same focus as family planning programs, namely, the means of control: "Many important contributions of a fundamental nature may be made without specific attention to the means for effecting family planning."

69. Wayland, Sloan, "Population Education, Family Planning and the School Curriculum," Teachers College, Columbia University, New York, u.d., Mimeo, pp. 10.

Wayland points out that it is incorrect to assume that sex education programs for young people are the educational counterpart of family planning for adults. He says:

> The factors which have led to the initiation of programs in sex education in Western countries are essentially unrelated to the factors which have led to serious public concern with population growth in developing countries.... Sex education as it has developed in the West is very much oriented towards the special problem associated with that social structure, and as such, encompasses many elements which are of limited concern for societies with different structures. For this reason educators or family planning leaders in developing countries should not assume that the potential contribution of educational systems lies in the institution of a sex education program as it has been developed in the West.

Elsewhere Wayland says that since neither sex nor family life educational approaches were developed out of an interest in family planning objectives, they are only marginally or partially appropriate for that field. "Having a full and meaningful understanding of sex and its relationship to all phases of one's life may not lead to any control of family size and one may engage in family planning with only a minimum of concern about one's sexuality."

Wayland describes in illustrative terms the possible foci of attention that characterizes his approach, with the qualification that the specific form which population education might take in any particular setting would need to reflect consideration of both the population policies and the characteristics of the educational system of that country. The foci are: basic instruction in population dynamics; development of basic understandings of the process of human reproduction; understanding of health problms associated with child-bearing; appreciation of the relationship between quality of life for a family and its size; appreciation of the significance of population characteristics and policies for social and economic development; and familiarity with the population policies and family planning program of one's own country (which can be transmitted without teaching about specific contraceptive methods).

Simmons (58, p. 8) observes:

> Wayland's contention that sex and family life approaches are only marginally or partially appropriate for family planning objectives needs further consideration. Moreover, he states that educators in the Middle East and Asia have shied away from sex education for two reasons: 1) It has been assumed that parents are sensitive about this area and thus educators have been unwilling to confront the difficulties anticipated in introducing the project; and 2) educators have recognized that the problem of teaching personnel for such a basic and difficult task cannot be handled without a major investment of time and resources. Population awareness, on the other hand, is seen as an educational approach relevant to family planning objectives which is within the realm of possibility for school systems to undertake.

70. Wayland, Sloan, "Population Study in the Secondary School Curriculum," Teachers College, Columbia University, New York, u.d., Mimeo, pp. 8.

> This paper explores several aspects of the curriculum problem: What is the scope of population study? What are the basic goals which might be achieved through attention to population? What is the relationship of instruction in population to other aspects of the curriculum in social studies and other fields? What are where are the resource materials for development of such instruction? What are the problems and issues associated with teaching population? In this brief -- eight pages -- paper, Wayland does not develop any of these topics in great detail, but he does make a most helpful, concise analysis of pop ed. This paper has been of considerable help to our cadre in thinking through the institutional implications of pop ed.

71. Wayland, See Millstone (44)

> ("How Schools Abroad meet the Problem," was the take-off item for the approach utilized by Burleson and the students working with him in the Harvard Graduate School of Education.)

72. Wheatley, Benjamin, "Syllabus for a Sophomore Course in Human Development," New Trier High School, Northfield, Illinois, n.d., Xeroxed, pp. 27.

> This syllabus for a sophomore course in human development is "geared to this level because of our feeling that earlier developmental disparities between male and female adolescent growth patterns have leveled off at this point and there tend to be more similarities between students than in the freshman year. As the course is conceived, there will be 30 students in a section, meeting three days a week..."
>
> In a personal communication, Wheatley writes:

> ...in our school we leave the matter of "plumbing and prevention" to the science classes and focus on relationships, style of life, origin of values, etc., in Human Behavior. This is based on two assumptions: first, that our kids know that there is a relationship between the pleasures of sexual intercourse and conception and will not seek the first without an awareness of the second. (Though we recognize that many middle and upper-middle-class families have "mistakes," we feel that most of our students recognize this fundamental relationship very clearly. Secondly, we assume that sex education for purposes of forwarding a sexual morality which keeps kids out of "trouble" and moral is an anachronism; for they, like their older college-age brothers and sisters operate within a contraceptive and situational morality. This makes the focus on understanding interpersonal relationships and family interactions a legitimate aim in our course, but it may not be applicable to other settings where the assumptions do not hold. We do not get into the social aspects of population.

This is an excellent human development curriculum with a strong anthropology and psychology base. The bibliography impresses us as so well selected that we add it here:

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